

Function Composition Worksheet

NAME _____

For problems 1–4, find (a) $(f \circ g)(2)$, (b) $(g \circ f)(2)$, (c) $(f \circ g)(x)$, and (d) $(g \circ f)(x)$.

1. $f(x) = -4x + 1$, $g(x) = 3x - 5$

2. $f(x) = -\frac{2}{3}x + 26$, $g(x) = 5x + 12$

3. $f(x) = 2x^2 - x$, $g(x) = x + 6$

4. $f(x) = \frac{2x+1}{3x-2}$, $g(x) = 5x - 1$

For problems 5–10, use the table definitions of $H(t)$ and $r(t)$ shown below to find the indicated value.

t	1.0	1.5	2.0	2.5	3.0	3.5
$H(t)$	2.8	2.6	2.5	2.0	1.0	2.2

t	2.0	2.2	2.4	2.6	2.8	3.0
$r(t)$	1.2	1.5	3.0	2.8	2.5	2.0

5. $(r \circ H)(2.5)$

6. $(r \circ H)(1.0)$

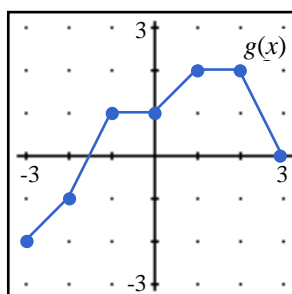
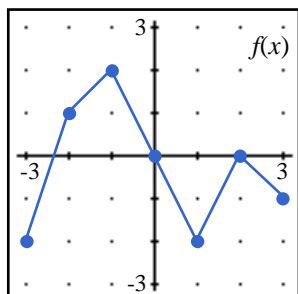
7. $(H \circ r)(2.2)$

8. $(H \circ r)(3.0)$

9. $(H \circ H)(2.0)$

10. $(r \circ r)(2.4)$

Problems 11–16 refer to the graphs of $f(x)$ and $g(x)$ shown. Find the indicated value.



11. $(f \circ g)(1)$

12. $(f \circ g)(-3)$

13. $(g \circ f)(1)$

14. $(g \circ f)(-1)$

15. $(f \circ f)(3)$

16. $(g \circ g)(0)$